

### **REMARKS/ARGUMENTS**

This case has been carefully reviewed and analyzed in view of the Official Action dated 28 June 2005. Responsive to the objections and rejections made in the Official Action, Claims 1 and 2 have been amended to clarify the language thereof.

In the Official Action, the Examiner objected to the Specification due to informalities therein. Accordingly, the Specification and Abstract have been amended and a Substitute Specification and Abstract prepared to replace the Specification and Abstract as filed. The Substitute Specification and Abstract represent clean copies of the amended Specification and Abstract in compliance with 37 C.F.R. § 1.52(a) and (b). The Substitute Specification and Abstract include the same changes that are indicated in the marked-up copy of the Specification and Abstract provided in the "AMENDMENTS TO THE SPECIFICATION." It is believed that the subject matter disclosed by the Substitute Specification was originally disclosed in the Specification and Claims, as filed, and the accompanying Drawing Figures. No new matter has been added by the Amendment.

In the Official Action, the Examiner rejected to the Claims due to informalities therein. Specifically, the Examiner stated that Claims were grammatically flawed. In response to this objection, the Claims have been amended to correct such informalities.

In the Official Action, the Examiner rejected Claims 1 and 2 under 35 U.S.C. § 102(b) as being anticipated by Arney, et al. (U.S. Patent 6,329,058).

Prior to a discussion of the prior art relied upon by the Examiner in the Official Action, it is believed that it would be beneficial to briefly review the subject Application in view of the inventive concept of the Applicant. The subject Application is directed to a method for manufacturing polymer chips containing non-complexed metal or non-complexed metal oxide nanoparticles. The method comprises the steps of pre-mixing non-complexed metal or non-complexed metal oxide nanoparticles with at least one polymer material thereby forming a composite polymer material containing the non-complexed metal or non-complexed metal oxide nanoparticles. Following the pre-mixing, the composite material is dried and then blended and extruded to form the polymer chips with dispersed metal or metal oxide nanoparticles contained therein.

In contradistinction, the Arney, et al. reference is directed to nano-size metal oxide particles for producing transparent metal oxide colloids and ceramers. The Arney, et al. reference is also directed to colloids and ceramers prepared using metal oxide particles and the methods associated with the preparation of the particles, colloids, and ceramers. The purpose of Arney, et al., is to produce nano-size titanium-based oxide particles which, in part, may be used to increase the refractive indexes of transparent organic matrixes. The method of producing the nano-size metal oxide metal particles and ceramers disclosed in Arney, et al. uses

a treated, complexed metal oxide. Arney, et al. specifically states, "... the metal oxide is combined with a complexing agent at ambient temperature and hydrolyzed." Whereas, Applicant uses a non-complexed metal or non-complexed metal oxide nanoparticles in its method for manufacturing polymer chips containing metal or metal oxide nanoparticles. As Arney, et al. discloses use of a complexing agent (ex. hexanoic acid) this changes the composition of the metal oxide. Therefore, the complexed, metal oxide disclosed in Arney, et al. is used for a different purpose and does not contemplate the use of a non-complexed metal oxide in a polymer as taught by the subject Patent Applicant.

Furthermore, the metal oxide that was hydrolyzed is heated in a pressure vessel, and then cooled at room temperature which results in a metal oxide particles that are observed as white precipitate. The metal oxide particles are then separated from the liquid by transferring the slurry into centrifuge. The centrifuging step as disclosed in Arney, et al. is an extra step that is not needed in the method as taught by Applicant in the subject Patent Application. Furthermore, as detailed above, the functional application of the method product of Applicant is to provide a polymer chips with metal or metal oxide nanoparticles that have a functional application of acting as disinfectants, antibiosis and for IR. Whereas, the purpose of Arney, et al. is to provide nano-sized, complexed metal oxide particles that are used to increase the refractive indexes of transparent organic matrixes.

Thus, the Arney, et al. reference does not disclose or suggest, "... pre-mixing at least one non-complexed metal or non-complexed metal oxide nanoparticles with at least one polymer material, generating a composite polymer material containing said non-complexed metal or non-complexed metal oxide nanoparticles, drying said composite material; and blending and extruding a composite material to form polymer chips with dispersed metal or metal oxide nanoparticles contained therein ..." as now defined in amended independent Claim 1. The Arney, et al. reference is directed to a method which is not directed to forming a product which is to be used as a disinfectant or for antibiosis in combination with polymers. Therefore, the Arney, et al. reference does not direct itself to the method of the subject invention concept as now defined by amended independent Claim 1 and does not provide for the objects and purposes of the subject invention system. As Arney, et al.'s reference fails to disclose each and every one of the method steps of the invention of the subject Patent Application, it cannot anticipate the invention as now claimed. Further, as the reference fails to suggest the combination of method steps now claimed, it cannot make obvious that claimed invention. Additionally, Claim 2 is ultimately dependent upon now amended independent Claim 1 and is believed to be at least patentably distinct for the same reasons as independent Claim 1.

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Reply to Office Action dated 28 June 2005

It is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted,  
For: ROSENBERG, KLEIN & LEE

A handwritten signature in cursive script, reading "David I. Klein". The signature is written in dark ink and is positioned above the printed name and registration number.

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